

REMARKS

In response to the Official Action of October 19, 2004, claims 1, 7, 8, 12 and 19 have been amended and claims 5, 6, 17 and 18 have been cancelled. For the reasons set forth below, it is respectfully submitted that the application overcomes the rejections cited and is in condition for allowance.

More particularly, it is noted at paragraph 1 of the Official Action that acknowledgement is made to a claim of foreign priority to United Kingdom Application No. 0026726.0 filed on November 1, 2000. The Examiner states that applicant has not filed a certified copy of said application. However, applicant's attorney respectfully submits that a certified copy of this UK application was mailed to the United States Patent and Trademark Office on April 23, 2002 as evidenced by a transmittal of the certified copy, a front page of said certified copy, an accompanying postcard submitted with the mailing and a return of said postcard with a USPTO date stamp of May 10, 2002, all of which are enclosed herewith as Attachment A. Applicant's attorney therefore requests that a review of the office records be made to ascertain the whereabouts of this certified copy.

Referring now to paragraph 4 of the Official Action, it is respectfully submitted that claims 1-7, 9-19 and 21 are not anticipated under 35 U.S.C. §102(b) in view of US patent 5,309,108, Maeda et al (hereinafter Maeda). Claim 1 has now been amended to incorporate the limitations recited in claims 5 and 6 with further amendment thereof concerning an indication of the specific row or column in which a malfunction has been indicated. Similarly, independent apparatus claim 12 has been amended to incorporate the limitations of claim 17 and 18 with further recitation that the indication of a malfunction in the device is for a specific row or column. Support for this amendment is found in the originally submitted claims, as well as in the specification at page 8, line 4 through page 9, line 20, as well as in Figures 6 and 7. As amended, claim 1 specifically points out and claims that the method of testing functionality of an image display device that comprises a matrix of image elements not only compares image data for first

and second images so as to derive resultant data corresponding to the functionality of the elements individually, but furthermore, that these elements are configured in an array of rows and columns and that the combining of the resultant data is for at least a part of an individual row or column such that the comparing of the combined data with a threshold provides an indication of a malfunction in the device for a specific row or column of that device.

The Examiner at paragraph 4 asserts that Maeda discloses a method of testing functionality of an image display device. However, the method of inspecting thin film transistor liquid crystal substrates as disclosed in Maeda is not with respect to comparing resultant data regarding images before and after the energisation of elements which are configured in an array of rows and columns but rather is directed to determining the position in a general area of the device where a short circuit defect has occurred. Thus, Maeda determines the defect position by the area associated with the intersection of scan and signal lines (corresponding to rows and columns respectively) so as to determine such defect position. The present invention by determining defect position at a specific row or column provides for a simpler mechanism for defect location which is clearly evident in Figures 6 and 7 of the present application.

The Examiner contends with regard to claim 6 (which now is incorporated into amended claim 1) that Maeda discloses including the combining of the resultant data for at least a part of an individual one of the rows or columns and comparing the combined image by comparing the image under voltage and the image before voltage application with a threshold to provide an indication of a malfunction in the device, citing column 16, lines 17-39, Figure 9 and column 12, lines 56-64 and Figure 12. However, at the recited passages in column 16, lines 17-39, it is specifically stated at lines 29-39:

“The shortcircuit defect position may be detected as the position of the *center of gravity* within the domain enclosed by isothermal line lowered by 0.2° C. for example from the position corresponding to the maximum value in the difference infrared image for example, or the difference infrared image is projected to the X, Y directions within the set domain and then the shortcircuit defect position may be detected as the position of the *center of gravity from the X, Y coordinates* in each of domains having value not less than the set value.” (emphasis added)

From the emphasized portions of the above quote, it is clear that the center of gravity refers to the area around a defect for determining the position of the defect and that this area is a two-dimensional determination rather than a column or row determination as specifically set forth in amended claim 1. It is therefore clear that the methodology in Maeda is to a more exacting defect position determination than that of the present invention and therefore actually teaches away from the simpler methodology disclosed and presently claimed in amended claim 1.

For all of the foregoing reasons, it is therefore respectfully submitted that amended claim 1 is neither disclosed nor suggested by Maeda. It is therefore respectfully submitted that claims 2-4 and 7-11, all of which ultimately depend from claim 1, are also distinguished over Maeda due to their dependency from a claim which is believed to be allowable. As a result, not only are method claims 2-4, 7 and 9-11 believed to be neither anticipated nor suggested by Maeda but also method claim 8 is not suggested by Maeda further in view of US patent 5,917,935, Hawthorne et al, due to its dependency from amended claim 1.

Furthermore, the techniques in Maeda for determining the nature of the threshold is unlike that of the present invention. The threshold determination in Maeda includes the use of variations on thermal images such described at column 16, lines 29-39 or is directed to the use of a set threshold value such as set forth at column 6, lines 30-45. Such threshold determination is unlike that of the present invention as set forth in amended claims 7 and 8. In claim 7, the threshold is determined as a function of the resultant data wherein the resultant data is column or row specific and in claim 8 the threshold is a weighted combination of the mean and standard deviation of the values of the resultant data included within an individual row or column. Such techniques for determining thresholds are not suggested by Maeda and therefore method claims 7 and 8 are further distinguished over Maeda as are corresponding apparatus claims 19 and 20.

For similar reasons as described above with respect to amended claim 1, claim 12, which is amended in a manner similar to that of claim 1, is believed to be distinguished over Maeda and therefore the dependent claims thereto; namely, claims 13-16 and 19-23 are also believed to be neither anticipated nor suggested by Maeda, taken alone or in combination with Hawthorne.

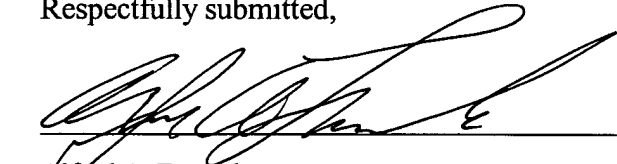
Referring now to paragraph 6 of the Official Action, the prior art made of record and not relied upon is also believed to neither disclose nor suggest the present invention as claimed, taken alone or in combination with the previously cited art. As recited at paragraph 6, although US patent 5,764,209, Hawthorne et al, discloses a flat panel display inspection system, such a system is unlike that of the presently disclosed and claimed invention. Similarly, although US patent 5,365,034, Kawamura et al, discloses defect detection and defect removal of a thin film electronic device, the techniques disclosed therein are unlike those of the present invention.

Furthermore, US patent 5,740,272, Shimada, although disclosing an inspection apparatus of a wiring board is disclosed, the techniques therein are unlike that of the present invention. US patent 6,221,543, Guehler et al, is directed to a process for making active substrates for color displays which is not directed to a method of testing functionality of an image display device as set forth in the presently claimed invention.

Finally, US patent 5,576,730, Shimada et al, cited in the PTO-892 listing, is directed to an active matrix substrate and method for producing such a substrate. Although electrical inspection is disclosed (see Abstract and column 4, lines 50-61), such an inspection is unlike the method and apparatus for testing functionality of an image display as disclosed and claimed in the present application.

In view of the foregoing, it is respectfully submitted that the present application as amended is in condition for allowance and such action is earnestly solicited.

Respectfully submitted,



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